

**REMARKS**

Applicants have now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of July 11, 2008 and the Advisory Action of October 20, 2008.

Reconsideration of the Application is requested.

**The Office Action**

Claims 1, 7-15, and 37-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the article "Topic Detection and Tracking Pilot Study Final Report" by Allan et al. (hereinafter Final Report) in view of the article "Relevance Models for Topic Detection and Tracking" by Lavrenko et al. (hereinafter Relevance Models) in view of the article "Dynamic Stopwording for Story Link Detection" by Brown. (hereinafter Brown).

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Final Report in view of Relevance Models in view of Brown, and further in view of Li et al. (hereinafter Li), U.S. Patent Application No. 2006/0062451.

Claims 3-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Final Report in view of Relevance Models in view of Brown, and further in view of Lantrip et al. (hereinafter Lantrip), U.S. Patent No. 6,584,220.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Final Report in view of Relevance Models in view of Brown, and further in view of the article "On-line New Event Detection and Tracking" by Allan et al. (hereinafter New Event Detection).

Claims 35-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Relevance Models in view of Brown in view of Bluhm et al. (hereinafter Bluhm), U.S. Patent No. 7,085,755.

Claims 1-7, 9-11, 13-15, and 37 remain in this application. Claims 8, 12, 16-36, and 38-39 have been canceled.

### **The Advisory Action**

The Advisory Action mailed October 20, 2008 entered the Amendment mailed October 6, 2008 for purposes of appeal. However, the Advisory Action asserted that the amendment did not place the application in condition for allowance.

### **Claims 1, 7, 9-11, 15, and 37 Are Distinguished From The Cited Art**

Claims 1, 7, 9-11, 15, and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Final Report in view of Relevance Models in view of Brown. Applicants respectfully traverse these rejections.

### **Claims 1, 7, 9-11, 15, and 37**

First, with reference to claim 1, turning to section 5, (page 5) of the Office Action, it is there stated that the combination of Final Report and Relevance Model discloses the concepts of determining at least one story characteristic based on an average similarity story characteristic, a story corpus and a new story. It then notes that the combination fails to explicitly disclose the further limitations of determining at least one story characteristic based on an average similarity story characteristic and a same event-same source story characteristic, a source-identified story corpus and source-identified new story. The Office Action then argues, however, that "Brown discloses topic detection and tracking, including the further limitations of determining at least one story characteristic based on an average similarity story characteristic [determining whether two news stories discuss the same subject] and a same event-same source story characteristic [a dual threshold is used to determine whether the computed cosine similarity indicates linkage between the two stories; one threshold is used when the two documents originate from the same type of source, and the other threshold is used for documents from different sources]." The Office Action therein makes reference to Section 1: Introduction and Section 2: System Description, 1st Paragraph.

Applicants will show that the teachings of Brown regarding sources are different than the same-source limitations recited in claim 1 and other claims of the present application. In fact, Applicants will show that Brown teaches against the same event-same source characteristic as recited in the claim.

Before discussing the teachings of Brown regarding sources, Applicants first briefly discuss the same source characteristic described in the present application and recited in the claim. When discussing similarity adjustments based on event and source-pair information, with specific reference to the source information, paragraph 59 of the original application makes the following statement: "That is, stories describing the same event and originating from the same source tend to use similar language. Thus, two stories originating from the "CNN" source tend to use similar language when describing the same event. Same event-same source adjustments are used to dynamically and selectively change the importance of terms used to determine a similarity metric to compensate for these shared terms and vocabularies" (underlining added for emphasis). This makes it clear that the source information of which the present application makes use of is essentially an authorship type of source, i.e., which organization produces the information. And, the stated reason for doing so is because it is expected that stories emanating from the same source are authored by persons who share a common vocabulary. This is made even more clear in paragraph 81 where the present application notes that two "stories describing the same rule of interpretation category are likely to share vocabulary. Two stories originating from the same source and describing the same event are even more likely to share vocabulary. In various exemplary embodiments according to this invention, adjustments are determined based on the average of the similarity metrics for each set of same event and same source stories. In this way, the effect of shared vocabulary terms is reduced."

An example of the effect of shared vocabulary of stories originating from the same source, but for different events is offered in paragraph 82: "For example, a first Washington Post Business Section story describes the introduction of company ABC's newest medical product. A second Washington Post Business Section story describes the introduction of company XYZ's newest medical product. These stories are likely to share a large number of vocabulary terms making differentiation difficult. However, if the two Washington Post sourced stories are determined to be from the same ROI, same event-same source adjustments are dynamically and selectively applied to differentiate the stories by reducing the effect of the shared vocabulary terms."

Further description of the same source information which reinforces the above-provided description can be found in paragraphs 90-91, 95 and 97 of the present application. However, it is clear from the description in the application, that in reference to source-identified stories, it is the source that produces the story which is utilized in determining the adjustments to the similarity metrics as recited in the claims.

Applicants now show that Brown teaches against the use of source identification as recited in claim 1 of the present application. Section 2, SYSTEM DESCRIPTION, first paragraph of the Brown reference, offers the following regarding dual thresholds: "A dual threshold is used to determine whether the computed cosine similarity indicates a linkage between the two stories; one threshold is used when the two documents originate from the same type of source, and the other (typically lower) threshold is used for documents from different sources. For the 2001 evaluation, all Mandarin-language sources were grouped together, as were all English-language sources (i.e. a news story from Mandarin-language Voice of America would be treated as coming from the same source as a news story from Xinhua newswire)".

The above-quoted parenthetical expressions bears repeating here: "a news story from Mandarin-language Voice of America would be treated as coming from the same source as a news story from Xinhua newswire" (underlining added). Applicants note here that the above-mentioned Voice of America and the Xinhua newswire would clearly be considered as different sources according to the present application, regardless of the story subject matter. Contrariwise, Brown teaches against the present application, and treats these obviously different sources as the same source simply because the documents share a common language, i.e. Mandarin or English. Clearly, Brown is concerned with the type of source, e.g., Mandarin-language vs. English-language, rather than the actual source of the documents.

Further, use of the phrase "same source" in the specification and claim limitations of the present application is consistent with respect to its intended meaning, i.e., the actual source of the information, or in other words, the origin of the information. This is consistent with customary and normal usage and the dictionary definition of the term "source", i.e., a point of origin or procurement, one that initiates, author, one that supplies information, and a firsthand document or primary reference work. Applicants

submit that the Office Action and the Advisory Action are incorrectly interpreting the phrase "same source" too broadly to include multiple sources having a similar characteristic, e.g., Mandarin language. Applicants further submit that the Brown reference, as described above, is concerned with characteristics of the source, and teaches against use of the origin of information as evidenced by the treating of multiple sources as the same source.

Based on the preceding discussion, Applicants respectfully submit that the Brown reference teaches considering different document sources as the same source based on other characteristics of the source (e.g., language). Thus, a modification of the Brown reference is necessary at least potentially meet the claimed invention of the present application. Because this modification would obviously destroy the function of the Brown reference, one of ordinary skill in the art would not find reason to make the modification. In other words, the Brown reference is not properly combinable with present application because the intended function of the Brown reference would be destroyed by the necessary modification.

Claim 1, as amended, now recites limitations of dependent claims 8 and 12 which are presently canceled. With reference to claim 12, the Office Action asserts that Final Report, Section 3.2: Measuring Topic Similarity teaches finding the probability of the topic. Applicants respectfully traverse this assertion. Applicants cannot find a topic titled "Measuring Topic Similarity" in Final Report and therefore assume the Office Action is referring to Section 3.2 of Relevance Models. However, although probability distributions are discussed therein, Applicants submit that Relevance Models does not describe a formula which teaches or suggests the formula recited in claim 1, as amended.

Claim 13, as amended, similar to claim 1 above, now also recites limitations of base claim 1 and dependent claim 8, as previously presented in the Amendment mailed October 6, 2008. The Office Action states that Final Report, Section 3.5: Results, Analysis, and Future Work, teaches finding the inverse document frequency which the Office Action asserts is comparable to finding the inverse event frequency. Applicants respectfully traverse this assertion. Applicants submit that Final Report does not describe a formula which teaches or suggests the formula recited in claim 13. For

example, the equation set forth in Final Report for *IDF* is a parametric equation, comprising a function of *x* (current point) and *t* (term), whereas the formula for *IEF* recited in claim 13 is a function only of *t*.

Claim 14, as amended, similar to claim 1 above, now also recites limitations of base claim 1 and dependent claim 8, as previously presented in the Amendment mailed October 6, 2008. The Office Action states that Final Report, Section 3.5: Results, Analysis, and Future Work, teaches finding the inverse document frequency which the Office Action asserts is comparable to finding the inverse event frequency, and further that the derivative of the first equation has been taken. Applicants respectfully traverse this assertion. Applicants assume that by "first equation" the Office Action is referring to the equation recited in claim 13. Applicants submit, however, that the assertion regarding "derivative of the first equation" is incorrect and that the Office Action does not show where either the present application or the cited reference describe a derivative of an equation. Further, Applicants submit that Final Report does not describe a formula which teaches or suggests the formula recited in claim 14.

For at least the above-stated reasons, Applicants respectfully submit that claim 1 is distinguished. For at least by reason of dependence from claim 1 and reasons set forth above, Applicants also submit that claims 7, 9-11, 13-15 and 37 are also distinguished.

**CONCLUSION**

For the reasons detailed above, it is submitted all remaining claims (1-7, 9-11, 13-15, and 37) are now in condition for allowance. The foregoing comments do not require unnecessary additional search or examination.

- Remaining Claims, as delineated below:

(1) FOR	(2) CLAIMS REMAINING AFTER AMENDMENT LESS HIGHEST NUMBER PREVIOUSLY PAID FOR	(3) NUMBER EXTRA
TOTAL CLAIMS	14	- 37 = 0
INDEPENDENT CLAIMS	3	- 6 = 0

- This is an authorization under 37 CFR 1.136(a)(3) to treat any concurrent or future reply, requiring a petition for extension of time, as incorporating a petition for the appropriate extension of time.
- Payment for the required 1-month extension of time fee is being charged to a credit card via the EFS Web.
- The Commissioner is hereby authorized to charge any filing or prosecution fees which may be required, under 37 CFR 1.16, 1.17, and 1.21 (but not 1.18), or to credit any overpayment, to Deposit Account 06-0308.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he/she is hereby authorized to call Mark S. Svat, at Telephone Number (216) 861-5582.

Respectfully submitted,

FAY SHARPE LLP

November 6, 2008

Date

  
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